

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A process for dynamically decoding two channel stereo into multi-channel sound comprising the steps of:

feeding left and right input signals to left and right front and surround channel outputs, respectively;

summing the left and right input signals to provide a summed signal;

determining when the summed signal is dominant; ~~and~~

dynamically varying the amplitude of the right and left input signals; and

subtracting the dynamically varied right and left input signals from the left and right surround channel outputs, respectively, when the summed signal is dominant.

Claim 2 (original) A process according to claim 1 further comprising the step of feeding the summed signal to a center front channel output.

Claim 3 (original). A process according to claim 2 further comprising the step of differencing the right and left input signals to provide a center surround signal at a center surround channel output.

Claim 4 (currently amended): A process for dynamically decoding two channel stereo into multi-channel sound comprising the steps of:

feeding left and right input signals to left and right front and surround channel outputs, respectively;

filtering the left and right input signals over a preselected bandwidth to provide left and right filtered signals;

summing the left and right input signals to provide a summed signal;

determining when the summed signal is dominant; and

dynamically varying the amplitude of the right and left input signals; and

subtracting the dynamically varied left and right filtered signals from the right and left surround channel outputs, respectively, when the summed signal is dominant.

Claim 5 (original) A process according to claim 4 further comprising the step of filtering the summed signal over the preselected bandwidth to provide a center front signal at a center front channel output.

Claim 6 (original) A process according to claim 5 further comprising the steps of:

differentiating the right and left input signals to provide a differenced signal; and

filtering the differenced signal over the preselected bandwidth to provide a center surround signal at a center surround channel output.

Claim 7 (original) A process for dynamically decoding two channel stereo into multi-channel sound comprising the steps of:

- feeding left and right input signals to left and right front and surround channel outputs, respectively;

- dynamically filtering the left and right input signals over a preselected bandwidth to provide left and right dynamically filtered signals;

- summing the left and right input signals to provide a summed signal;

- determining when the summed signal is dominant; and

- subtracting the left and right dynamically filtered signals from the right and left surround channel outputs, respectively, when the summed signal is dominant.

Claim 8 (original) A process according to claim 7 further comprising the step of dynamically filtering the summed signal over the preselected bandwidth to provide a center front signal at a center front channel output.

Claim 9 (original) A process according to claim 8 further comprising the step of:

- differencing the right and left input signals to provide a differenced signal; and

- dynamically filtering the differenced signal over the preselected bandwidth to provide a center surround signal at a center surround channel output.

Claim 10 (currently amended): A process for dynamically decoding two channel stereo into multi-channel sound comprising the steps of:

splitting a left input signal and a right input signal into left and right bass and high frequency band signals, respectively;

feeding the left and right high frequency band signals to left and right surround channel outputs, respectively;

summing the left and right high frequency band signals to provide a summed high frequency band signal;

determining when the summed high frequency band signal is dominant;

dynamically varying the amplitude of the left and right high frequency band signals;

subtracting the dynamically varied right and left high frequency band signals from the left and right surround channel outputs when the summed high frequency band signal is dominant;

subtracting the dynamically varied right and left high frequency band signals from the left and right high frequency band signals, respectively, when the summed high frequency band signal is dominant to provide left and right processed high frequency band signals; and

combining the left bass band signal and the left processed high frequency band signal and the right bass band signal and the right processed high frequency band signal to provide left and right front channel outputs, respectively.

Claim 11 (original) A process according to claim 10 further comprising the step of feeding the summed high frequency band signal to a center front channel output.

Claim 12 (original) A process according to claim 11 further comprising the step of differencing the left and right high frequency band signals to provide a differenced high frequency band signal at a center surround channel output.

Claim 13 (currently amendedl): A process for dynamically decoding two channel stereo into multi-channel sound comprising the steps of:

splitting a left input signal and a right input signal into left and right bass and high frequency band signals, respectively;

filtering the left and right high frequency band signals over a preselected bandwidth to provide left and right filtered signals, respectively;

summing the left and right high frequency band signals to provide a summed high frequency band signal;

determining when the summed high frequency band signal is dominant;

dynamically varying the amplitude of the right and left filtered signals;

subtracting the dynamically varied right and left filtered signals from the left and right high frequency band signals, respectively, when the summed high frequency band signal is dominant to provide left and right processed signals at left and right surround channel outputs, respectively; and

combining the left bass band signal and the left processed signal and the right bass band signal and the right processed signal to provide left and right front output signals at left and right front channel outputs, respectively.

Claim 14 (original) A process according to claim 13 further comprising the step of filtering the summed high frequency band signal over the preselected bandwidth to provide a center front output signal at a center front channel output.

Claim 15 (original) A process according to claim 14 further comprising the steps of:
 differencing the left and right high frequency band signals to provide a differenced high frequency band signal; and
 filtering the differenced high frequency band signal over the preselected bandwidth to provide a center surround output signal at a center surround channel output.

Claim 16 (original) A process for dynamically decoding two channel stereo into multi-channel sound comprising the steps of:

 splitting a left input signal and a right input signal into left and right bass and high frequency band signals, respectively;

 dynamically filtering the left and right high frequency band signals over a preselected bandwidth to provide left and right dynamically filtered signals, respectively;

 summing the left and right high frequency band signals to provide a summed high frequency band signal;

 determining when the summed high frequency band signal is dominant;

 subtracting the right and left dynamically filtered signals from the left and right high frequency band signals, respectively, when the summed high frequency band signal is dominant to provide left and right processed signals at left and right surround channel outputs, respectively; and

 combining the left bass band signal and the left processed signal and the right bass band signal and the right processed signal to provide left and right front output signals at left and right front channel outputs, respectively.

Claim 17 (original) A process according to claim 16 further comprising the step of dynamically filtering the summed high frequency band signal over the preselected bandwidth to provide a center front output signal at a center front channel output.

Claim 18 (original) A process according to claim 17 further comprising the steps of:
 differencing the left and right high frequency band signals to provide a differenced high frequency band signal; and
 dynamically filtering the differenced high frequency band signal over the preselected bandwidth to provide a center surround output signal at a center surround channel output.

Claim 19 (currently amended): A process for dynamically decoding two channel stereo into multi-channel sound comprising the steps of:
 feeding left and right input signals to left and right front and surround channel outputs, respectively;
 inverting the left and right input signals;
 summing the left and right input signals to provide a summed signal;
 determining when the summed signal is dominant; and
 dynamically varying the amplitude of the left and right inverted signals; and
 adding the dynamically varied left and right inverted signals to the right and left surround channel outputs, respectively, when the summed signal is dominant.

Claim 20 (original) A process according to claim 19 further comprising the step of feeding the summed signal to a center front channel output.

Claim 21 (original) A process according to claim 20 further comprising the step of differencing the right and left input signals to provide a center surround signal at a center surround channel output.

Claim 22 (original) A process for dynamically decoding two channel stereo into multi-channel sound comprising the steps of:

- feeding left and right input signals to left and right front and surround channel outputs, respectively;

- summing the left and right input signals to provide a summed signal;

- differencing the left and right input signals to provide a differenced signal;

- determining which of the left input, right input, summed and differenced signals is dominant;

- generating a left/right variable dc control signal in response to dominance of one of the left and right input signals;

- generating a center variable dc control signal in response to dominance of the summed signal;

- generating a surround variable dc control signal in response to dominance of the differenced signal;

- inverting the left and right input signals;

- attenuating the inverted left and right input signals in response to the center control signal;

- combining the left and right input signals with the attenuated inverted right and left input signals, respectively to provide left and right processed signals, respectively;

- attenuating the left and right processed signals in response to the surround control signal to provide left and right attenuated processed signals;

- combining the left and right input signals with the left and right attenuated processed signals, respectively, to provide left and right front signals at left and right front channel outputs, respectively; and

- attenuating the left and right processed signals in response to the left/right control signal to provide left and right surround signals at left and right surround channel outputs.

Claim 23 (original) A process according to claim 22 further comprising the step of attenuating the summed signal in response to the left/right and surround control signals to provide a center front signal at a center front channel output.

Claim 24 (original) A process according to claim 23 further comprising the step of attenuating the differenced signal in response to the left/right control signal to provide a center surround signal at a center surround channel output.

Claim 25 (original) A process according to claim 22 further comprising the step of generating a frequency variable dc control signal which is proportional to the quantity of high frequency information contained in the summed signal in response to dominance of the summed signal, said step of combining signals to provide left and right attenuated processed signals comprising the substeps of:

- filtering the attenuated inverted right and left input signals over a preselected bandwidth in response to the frequency control signal; and

- combining the filtered right and left signals with the left and right input signals, respectively.